Listing of Claims

Please cancel claims 21-22 and 35-37 without prejudice, amend claims 23-28 and 33 and add new claims 39-42 as follows:

1-17. (Cancelled)

18. (Previously Presented) A method of transmitting packets from devices to output ports, the method comprising:

provideing a plurality of requests to transmit data packets from a plurality of devices, wherein each request corresponds to one of a plurality of input queues of one of the devices and includes an output port identifier for transmitting data packets to one of a plurality of output ports;

receiving the requests in parallel at respective inputs of a plurality of allocation stages, wherein an output of each stage is connected to an input of a subsequent stage;

at least one of the allocation stages performing a matching based on the requests to generate one of a partial matching information or a complete matching information, wherein the partial matching information is a matching of less than all the requesting devices to a corresponding one of the output ports and the complete matching information is a matching of all the requesting devices to a corresponding one of the output ports; and

granting permission to an input queue of each of the requesting devices for a corresponding one of the output ports using the completed matching information from the last stage.

19. (Previously Presented) The method of claim 18, further comprising transferring the partial matching information from a stage of the plurality to a subsequent stage of the plurality.

20. (Previously Presented) The method of claim 18, further comprising transmitting the data packets from each of the input queues that were granted permission to a corresponding one of the output ports.

21-22. (Cancelled)

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23. (Currently Amended) The method of claim 1~~8~~9, wherein the transferring of the partial matching information from a stage of the plurality to a subsequent stage of the plurality is ~~further~~ based on the number of requests that are pending.

24. (Currently Amended) The method of claim 1~~8~~9, wherein the transferring of the partial matching information from a stage <u>of the plurality</u> to a subsequent stage is ~~further~~ based the position of the stage.

25. (Currently Amended) An arbitration unit comprising:

a plurality of allocation stages ~~connected in series, wherein an output of each stage is connected to an input of a subsequent stage~~;

a request unit providing requests to transmit data packets from a plurality of devices in parallel to the input of each of the stages, wherein each request ~~corresponds to one of a plurality of input queues of one of the devices and~~ includes an output port identifier for transmitting data packets to one of a plurality of output ports;

a grant unit ~~connected to an output of the last stage, the grant unit~~ providing <u>final</u> matching information from the <u>allocation stages</u>~~last stage~~ to the input devices,

wherein each stage is configured to perform a matching based on the requests to generate the matching information, wherein the matching information is a matching of the requesting devices to a corresponding one of the output ports.

26. (Currently Amended) The packet switching device of claim 25, wherein the stages are configured to perform the matching iteratively based on the received requests and ~~partial~~ <u>preceding intermediate</u>~~matching information provided from a previous stage~~.

27. (Currently Amended) The arbitration unit of claim 25, further comprising an allocation unit to allocate the data packets of an input <u>port</u>~~queue of an input device~~ to a corresponding output port based on the matching information.

28. (Currently Amended) The arbitration unit of claim 26, wherein at least one of the allocation

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stages comprises:

an allocator to perform the matching; and

a prefilter to perform one of a forwarding of the requests to the allocator or a forwarding of modified information to the allocator, wherein the modified information is based on the requests and the ~~partial matching~~preceding intermediate information.

29. (Previously Presented) The arbitration unit of claim 28, wherein prefilter determines whether to forward the modified information based on a current matching in the partial matching information.

30. (Previously Presented) The arbitration unit of claim 28, wherein the prefilter determines whether to forward the modified information based on the number of requests that are pending.

31. (Previously Presented) The arbitration unit of claim 28, wherein the prefilter determines whether to forward the modified information based on the position of the stage.

32. (Previously Presented) The arbitration unit of claim 28, wherein at least one of the allocation stages further comprises a postfilter unit for filtering out at least one match in the matching information.

33. (Currently Amended) The arbitration unit of claim 25, wherein the request unit comprises a plurality of counters, wherein each counter corresponds to one of the ~~input queues for each of the~~ input ports~~devices~~ for counting the number of pending requests ~~from~~ for a particular ~~queue~~output port.

34. (Previously Presented) The arbitration unit of claim 25, furthers comprises a selection unit to selectively provide the requests in parallel to each of the allocation stages.

35-37. (Cancelled)

38. (New) A method of scheduling packet transmissions from input ports of a switching system to output ports of said switching system, the method comprising:

1) operating in parallel a plurality of allocation stages to compute a plurality of matching informations over the course of a plurality of successive time slots;

a) one of the matching informations being a final matching information and the others being intermediate matching informations, wherein a final matching information is a matching computed over the course of all the successive time slots and an intermediate matching information is a matching computed over the course of less than all the successive time slots;

2) performing in each time slot the following steps:

a) providing a plurality of requests to transmit data packets from a plurality of input ports, wherein each request corresponds to one of the input ports and includes an output port identifier for transmitting data packets to one of a plurality of output ports;

b) receiving the requests in parallel at respective inputs of the allocation stages, one of the allocation stages generating a final matching information based on a preceding intermediate matching information and the requests received;

c) the other allocation stages each generating a new intermediate matching information based on preceding intermediate matching informations and the requests received;

d) granting permission to the requesting input ports for a corresponding one of the output ports according to the final matching information; and

e) resetting the final matching information.

39. (New) The method of claim 38, further comprising transferring each intermediate matching information from a stage to a subsequent stage such that the final matching information is obtained from the last stage in each subsequent time slot.

40. (New) The method of claim 38, further comprising keeping each intermediate matching information in the same stage such that the final matching information is obtained from a different stage in each subsequent time slot.

41. (New) The method of claim 39, further comprising transferring the intermediate matching information from a stage to a subsequent stage.

42. (New) The method of claim 38, further comprising transmitting the data packets from each of the input ports that were granted permission to a corresponding one of the output ports.